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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
YANG, LINA	

ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/994,490	HU ET AL.	
	Examiner	Art Unit	
	Lina Yang	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *9/16/2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,8-11,13-15 and 17-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *11,13-15,17-18* is/are allowed.

6)☒ Claim(s) *1,3-6 and 8-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed 9/16/2005 have been entered and made of record.

Claims 2, 7, 12 and 16 have been canceled. Claims1, 3, 6, 8, 11, 13, 15 and 17 have been amended. As a result, claims 1, 3-6, 8-11, 13-15 and 17-18 are now pending in this application.

Response to Arguments

2. Applicant's arguments filed 9/16/2005 have been fully considered but they are not persuasive.

The following are the responses to the applicant's arguments on page 11 of 13, regarding claims 4-5 and 9-10.

In the remark, the applicant argued that Lei cannot disclose or suggest "inserting an acknowledge sequence number in at least one of the data packets, the acknowledge sequence number being the transmission sequence number of the data packet that was aborted" as recited in independent claim 4 and similarly recited in independent claim 9, as Lei illustrates how the cited art of record relies upon non-acknowledgements to request a retransmission of lost data packets.

-In reply, claim 4 recites a method of transmitting data packets, comprising:

assigning data packets a transmission sequence number, the transmission sequence number indicating a sequence of transmission for the data packets;

transmitting the data packets to a destination device;

aborting transmission of a data packet; and

inserting an acknowledge sequence number in at least one of the data packets, the acknowledge sequence number being the transmission sequence number of the data packet that was aborted.

Claim 9 is just an apparatus claim for the method claim 4.

The claimed subject matter in claims 4 and 9 does not specify it adopts any of the convention acknowledgement or non-acknowledgement mechanisms. Further more, as applicants stated in the specification (page 6 lines 21-29 and page 7 lines 1-4), when the transmission is aborted, the acknowledge sequence number is just the transmission sequence number of the data packet that was aborted, again it does not need any acknowledgement to assign that acknowledge sequence number. Therefore, it does not require any specific mechanism that Lei has to use in order to make it a qualified reference.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3-6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Will (U.S. Patent No. 5,588,009), in view of Shalom (U.S. Patent Application No. 20020131425 A1) and further in view of Lei et al. (U.S. Patent No. 6,401,127 B1).

Regarding claims 1 and 6 (they only differ for different statutory classes), Will teaches a method of transmitting data packets, comprising:

assigning data packets a transmission sequence number, the transmission sequence number indicating a sequence of transmission for the first data packets ("packet sequence number" 82 in Fig. 8; col. 10 lines 61-63);

transmitting at least one of the data packets to a destination device (col. 5 lines 15-16);

Will differs from the claimed invention in that Will does not specifically teaches that aborting the transmission of at least one of the data packets. However, it is well known in the art that the transmission of lower priority data is interrupted/aborted when the transmission of higher priority data is needed. For example, Shalom teaches aborting the transmission of the first data packet when another first data packet having a higher priority class is ready for transmission (Page 1, paragraph [0011]). Therefore, it would have been obvious for one of ordinary skill in the art to include aborting the transmission of the first data packet when another first data packet having a higher priority class is ready for transmission, such as the one taught by Shalom into the assembly taught by Will in order to send the high priority packets (such as aborting

high priority packets 111 to transmit urgent priority packets 110 in Fig. 11 in Will) immediately.

The modified assembly of Will and Shalom differs from the claimed invention in that Will and Shalom does not specifically teaches that inserting an acknowledge sequence number in at least one of the transmitted data packets, the acknowledge sequence number being the transmission sequence number of one of the aborted data packet.

However, it is a common practice to have the source station retransmit the lost data (including aborted data) in order to compensate for lost data during transmission from a source station to a destination station. For example, Lei discloses a reliable communication where some point-to-point protocols the LLC TYPE 2 function in the LLC layer can read the sequence numbers of received packets, and can request retransmission of packets which are missing (col. 2 lines 1-4); and making use of REJ ("reject") packets which indicates that the receiver is requesting retransmission of packets starting with the number in the receive sequence number field (col.2 lines 32-34). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate inserting an acknowledge sequence number in at least one of the transmitted data packets, the acknowledge sequence number being the transmission sequence number of one of the aborted data packet, such as the one taught by Lei into the assembly taught by Will and Shalom in order to compensate for lost data during transmission from a source station to a destination station.

Regarding claims 3 and 8 (they only differ for different statutory classes), the modified assembly of Will and Lei differs from the claimed invention in that Moon, Will and Lei do not specifically discloses the aborting step aborts the transmission of the first data packet when another first data packet having a higher priority class is ready for transmission. However, it is well known in the art that the transmission of lower priority data is interrupted/aborted when the transmission of higher priority data is needed. For example, Shalom teaches aborting the transmission of the first data packet when another first data packet having a higher priority class is ready for transmission (Page 1, paragraph [0011]). Therefore, it would have been obvious for one of ordinary skill in the art to include aborting the transmission of the first data packet when another first data packet having a higher priority class is ready for transmission, such as the one taught by Shalom into the modified assembly taught by Will and Lei in order to send the high priority packets (such as aborting high priority packets 111 to transmit urgent priority packets 110 in Fig. 11 in Will) immediately.

Regarding claims 4 and 9 (they only differ for different statutory classes), Will teaches a method of transmitting data packets, comprising: assigning first data packets a transmission sequence number, the transmission sequence number indicating a sequence of transmission for the first data packets ("packet sequence number" 82 in Fig. 8; col. 10 lines 61-63); transmitting the first data packets to a destination device (col. 5 lines 15-16).

Will differs from the claimed invention in that Will does not specifically teaches that aborting transmission of a data packet; and inserting an acknowledge sequence number in at least one of the data packets, the acknowledge sequence number being the transmission sequence number of the data packet that was aborted.

However, it is well known in the art that the transmission of lower priority data is interrupted/aborted when the transmission of higher priority data is needed. For example, Shalom teaches aborting the transmission of the first data packet when another first data packet having a higher priority class is ready for transmission (Page 1, paragraph [0011]). Therefore, it would have been obvious for one of ordinary skill in the art to include aborting the transmission of the first data packet when another first data packet having a higher priority class is ready for transmission, such as the one taught by Shalom into the assembly taught by Will in order to send the high priority packets (such as aborting high priority packets 111 to transmit urgent priority packets 110 in Fig. 11 in Will) immediately.

The modified assembly of Will and Shalom differs from the claimed invention in that Will and Shalom does not specifically teaches that inserting an acknowledge sequence number in at least one of the data packets, the acknowledge sequence number being the transmission sequence number of the data packet that was aborted.

However, it is a common practice to have the source station retransmit the lost data (including aborted data) in order to compensate for lost data during transmission from a source station to a destination station. For example, Lei discloses a reliable communication where some point-to-point protocols the LLC TYPE 2 function in the

LLC layer can read the sequence numbers of received packets, and can request retransmission of packets which are missing (col. 2 lines 1-4); and making use of REJ ("reject") packets which indicates that the receiver is requesting retransmission of packets starting with the number in the receive sequence number field (col.2 lines 32-34). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to incorporate inserting an acknowledge sequence number equal to the transmission sequence number for the aborted first data packet into one of the first data packets to be transmitted, such as the one taught by Lei into the assembly taught by Will and Shalom in order to compensate for lost data during transmission from a source station to a destination station.

Regarding claims 5 and 10 (they only differ for different statutory classes), the modified assembly of Will, Shalom and Lei discloses the aborting step aborts the transmission of the data packet when another data packet having a higher priority class is ready for transmission (Page 1, paragraph [0011] in Shalom).

Allowable Subject Matter

4. Claims 11, 13-14, 15 and 17-18 are allowed.

The following is an examiner's statement of reasons for allowance.

The subject matter of claims 11 and 13-14 is allowable over prior art of record, because all prior arts fail to teach or suggest a method of receiving data packets,

comprising: receiving data packets at a destination device from a source device, each data packet having a transmission sequence number, the transmission sequence number indicating a sequence of transmission for the data packets, and at least one of the data packets including an acknowledge sequence number, the acknowledge sequence number indicating that the source device considers the data packet having a transmission sequence number equal to the acknowledge sequence number was received at the destination device; storing the received data packets in at least one buffer; ***outputting data packets in order of transmission from the buffer at least based on the transmission sequence numbers of the data packets and the acknowledge sequence number, so that a missing data packet having a transmission sequence number equal to the acknowledge sequence number is treated as having been output from the buffer.***

Claims 15 and 17-18 are the apparatus claims for the method claims 11 and 13-14. Therefore, they are allowed for the same reason stated above.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lina Yang whose telephone number is (571) 272-3151. The examiner can normally be reached Monday through Wednesday between 7:00 a.m. and 8:00 p.m. eastern standard time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LY

ALPUS H. HSU
PRIMARY EXAMINER